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# TRIP REPORT

Brookhaven National Laboratory - Marshall Islands Survey

May - June 1979

The second Brookhaven National Laboratory survey of the Marshall Islands in calendar 1979 covered the period from early May through mid-June. (Please see Enclosure I for itinerary of participants).

This survey was unique in that we had been asked to include physical examinations for the people of Bikini - living on Majuro - in addition to the regular study group. The addition of the group greatly expanded the logistic requirements of the survey. We had originally planned for a pediatric survey, sick call and selected thyroid re-examinations of the exposed and the comparison populations. The Bikini group received the complete workup designed for the study group. This workup required the assistance of two additional physicians, two technicians, and one administrative assistant.

A new precedent had been established by the whole-body counting group shortly before this survey of granting reimbursement to the Bikinians coming from Edgit Island for the studies. Each of these patients was to receive \$10 for transportation and meals, however, apparently people other than Edgit people received compensation and it finally became a standard procedure to pay all patients \$10 going through the whole-body counter.


An attempt was made to integrate the whole-body counting visit with the medical examinations but severe scheduling problems arose, requiring several visits, and payments to many Bikinians. A total of 102 Bikinians were seen by the medical examination team. Some of these patients required several re-appointments to complete their examinations. The mechanisms and guidelines for the reimbursement of this group needs a careful reevaluation and a formal statement of limitations as soon as possible.

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The medical survey group spent one week in Majuro and then moved on to Ebeye for 3½ days. Dr. Don Paglia unfortunately fractured his foot on the last day in Majuro and returned to the United States on May 25th. Dr. Pratt and Dr. John Iaman (Marshallese Medical Officer) performed a sick call while Dr. Conard screened thyroids and Dr. Patricia Sullivan cared for the pediatric patients. On May 25th Dr. Jacob Robbins arrived to join the party for the outer-island survey. (Please see Enclosure II for a tabulation of patients seen for thyroid screening). Dr. Conard and Dr. Robbins confined their examinations to the thyroid. Drs. Pratt and Iaman saw all other medical problems including full examinations of those patients found to have thyroid nodules that might require surgery.

Dr. Sullivan continued to see between 25-40 patients per day in the pediatric age group. Unfortunately, due to the large number of children, complete pediatric coverage was impossible. We have assured the study group that a pediatrician will be recruited to complete the examination in the September-October Survey (Please see Enclosure III for a tabulation of the pediatric examinations). On May 25th Mr. Wayne Munk (Holmes & Narver) arrived to accompany the outer-islands survey. The ship sailed the following day for Rongelap.


The support given to the Brookhaven National Laboratory medical team by the crew of the Litkanur II and Mr. Munk was outstanding. The multiple discrepancies noted in my previous trip report had either been fixed or some corrective action had been taken (in most cases). Throughout the ship-based portion of the survey, the ship's crew and the medical party functioned as a unit. The Captain (Keith Coberly, Master) of the ship possessed the required certification as a Master (per Brookhaven National Laboratory's Occupational Health and Safety Guide, dated Feb. 8, 1979,

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entitled "Marine Safety", please see Enclosure IV) and his pleasant personality and able seamanship greatly assisted the BNL team. Mr. Munk was of great assistance in the survey as liaison between BNL and U.S. Oceanography. Because of the unique logistic requirements of this survey, e.g., we needed to pick up, at each island, all patients who might require surgery, the ship on the final leg from Utirik to Wotje and finally to Kwajalein was overloaded. (It had been my opinion since the original contract negotiation that this ship was marginal for support of the medical program.) Even with the partial correction of the prior deficiencies, the habitability of the spaces assigned to the medical survey party was unsatisfactory. We had a number of small epidemics of upper respiratory infections and viral gastrointestinal illnesses during the trip due primarily to crowding in the berthing areas (please see Enclosure V). With the inevitable expansion of each succeeding medical survey this problem will quickly become the limiting factor.

I agreed to an interim renewal of the ship's contract for this year while some more suitable means of support was obtained with the understanding that the present ship will compromise the medical mission during the remainder of calendar 1979 and early 1980. The reasons for, and characteristics of, the replacement support system should be discussed at the Department of Energy as soon as possible.

Upon returning to Kwajalein we were met by Dr. Brown Dobyns, Professor of Surgery, Case Western Reserve University who is one of the nation's leading thyroid surgeons to review all of the possible surgical cases along with Drs. Conard and Robbins. Fourteen patients were selected to return to the United States for workup at Brookhaven National Laboratory and thyroid surgery at Cleveland during June and July of 1979. In addition to the

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thyroid patients, four emergency medical evacuations were brought in from the outer islands. The addition of 18 Marshallese patients presented serious problems to the ship in regards to sleeping areas and food. I was informed by Mr. Munk that the ship was "almost out of food" when we returned to Kwajalein.

A few minor problems in ship support developed during the voyage. They were: 1) The cook was very susceptible to seasickness and very little food was provided while the ship was underway. His cooking at anchor or at dockside was superb. 2) The main hatch dog for the watertight hatch between the medical berthing area and the head was fabricated from light strap aluminum. It bent as soon as the ship began to roll heavily and the weight of the door, smashing against the insulated bulkhead dented it badly. Again, the hatch presented a hazard to the medical party in the berthing area. 3) A second watertight hatch leading from the forecastle to the well deck was also secured inadequately with a light hook. This heavy hatch again broke loose during heavy rolling and was finally secured by a line (Please see Enclosure V, photographs of latches and bulkheads). 4) The cargo containers (vans), that had been converted into the medical examination rooms developed a number of severe leaks during the heavy rains. This restricted our operations on several occasions. In addition, the canvas cover between the vans also leaked during heavy rains. A rerigging of the canvas and repairs of the leaking roof will be necessary before the next medical survey.

Summary: In summary, the addition of the Bikinians at the last moment necessitated the rapid modification of the staffing and logistic plans. These plans need to be fixed 8-12 weeks before the survey to allow for professional staff planning, i.e. the guest consultants teaching schedules and professional schedule as well as material lead time. We did the best we could with the

time allotted. However, two important commitments were not completed or were completely cancelled. The included: A) adequate (in numbers) pediatric coverage. Dr. Sullivan did a superb job on the patients that she was able to see but many children, especially in the study group at Majuro, were not seen. I have promised the people that we would include a "baby doctor" in our September-October survey. These were not in the original plans for that period. B) The Health Education Program which was an important and integral part of our public relations program could not be started during this survey due to insufficient time and staff. Both of these problems need to be addressed indepth during the next survey. Additional areas of interest include:

- 1) the reimbursement "policy" for the Bikinians, needs immediate written Department of Energy clarification.
- 2) Since the medical berthing spaces for staff and patients are inadequate we will need to restrict the scope of the medical examinations and the number of patients to be seen in future surveys. I would recommend that no more than 8 staff be housed in hold #2.
- 3) The crew of the Likatanur II as presently constituted, with a licensed Master, did a fine job. I would strongly recommend that this same team continue to support the medical surveys for the remainder of the contract.

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Enclosure I

MAY - JUNE 1979 MARSHALL ISLANDS SURVEY PARTICIPANTS

<u>Name</u>	Date Left Home	Date Returned
Dr. H. Pratt	May 9, 1979	June 14, 1979
S. Wynn	May 9, 1979	June 14, 1979
Dr. R. Conard	May 12, 1979	June 13, 1979
Dr. P. Sullivan	May 11, 1979	June 18, 1979
Dr. D. Paglia	May 11, 1979	May 25, 1979
Dr. J. Robbins	May 24, 1979	June 13, 1979
W. Scott	May 7, 1979	May 24, 1979
Dr. B. Dobyys	June 7, 1979	June 13, 1979
P. Heotis*	May 9, 1979	June 8, 1979
J. Kabua*	May 11, 1979	June 8, 1979
Dr. J. Iaman**	May 21, 1979	June 11, 1979
S. Shoniber**	May 21, 1979	June 11, 1979
N. Zetkeia**	May 21, 1979	June 11, 1979
K. Gideon**	May 21, 1979	June 11, 1979
H. Emos***	May 21, 1979	June 8, 1979

\* Stationed at Kwajalein

\*\* Trust Territory Personnel Stationed at Majuro

\*\*\* Trust Territory Personnel Stationed at Ebeye

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Enclosure II

THYROID CASES EXAMINED

			Total
Majuro	Rongelap group	12	12
	Utirik group	16	16
Ebeye	Rongelap group	48	48
	Utirik group	8	8
Rongelap		25	25
Utirik		61	61
Wotje		61	<u>61</u>
			231

Enclosure III

PEDIATRIC EXAMINATION

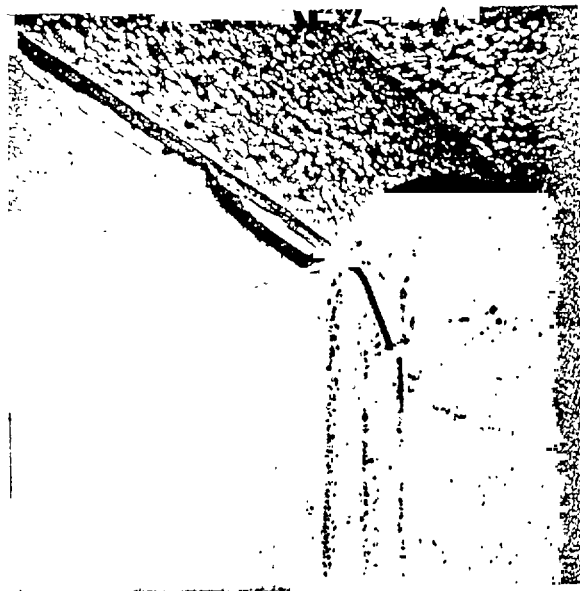
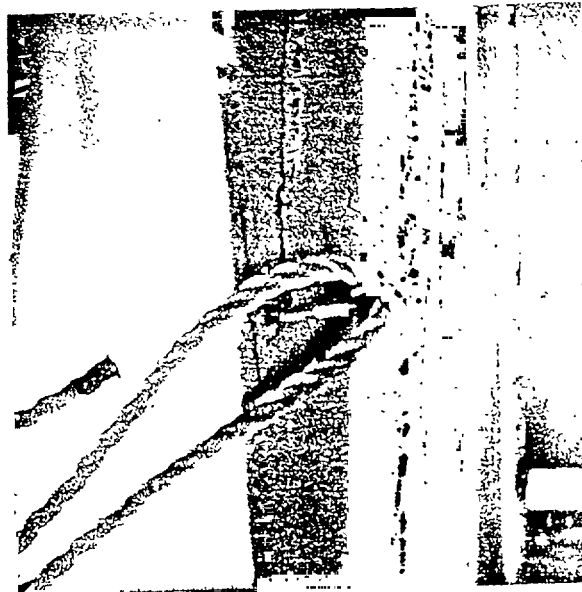
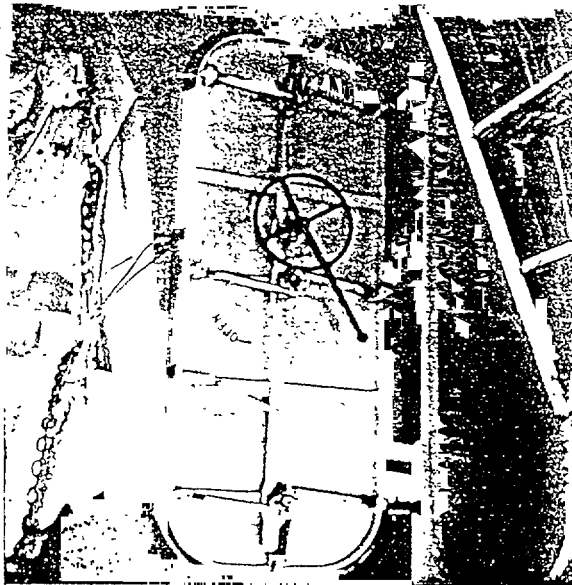
Majuro - Bikinians	54
Study group	15
Ebeye (with J. Iamen assisting)	136
Rongelap	126
Utirik	<u>97</u>
Total	428

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